

Appl. No. 10/710,580
Amtd. dated January 13, 2006
Reply to Office action of October 13, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

5 Claim 1 (Currently Amended): A patch antenna comprising:

a dielectric layer having a ~~top~~ first surface and a ~~bottom~~ second surface;
a first priming layer [[on]] contacting the ~~top~~ first surface;
a second priming layer [[on]] contacting the ~~bottom~~ second surface;
a first adhesive layer on the first priming layer;
10 a second adhesive layer on the second priming layer;
a radiating element on the first adhesive layer; and
a ground plate on the second adhesive layer.

Claim 2 (Original): The patch antenna of claim 1 further comprising a low noise amplifier

15 integrated with the patch antenna by sharing a common ground plate or by electrically connecting the ground plates and a signal conductor pin from the amplifier to the radiating element.

Claim 3 (Original): The patch antenna of claim 1 wherein the dielectric layer comprises a

20 material selected from a group consisting of Polyethylene (PE), Polypropylene (PP),
Polystyrene (PS), Polyisobutylene (PIB), Polybutylene (PB), Polybutadiene (BR),
Teflon, Acrylonitrile / Butadiene / Styrene (ABS), Acrylonitrile /
Ethylene-Propylenediene / Styrene (AES), Acrylonitrile / Styrene / Acrylate (ASA),
Polyurethane (PU), and Polycarbonate (PC).

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Claim 4 (Original): The patch antenna of claim 1 wherein the dielectric layer substantially is polymer plastic.

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Claim 5 (Original): The patch antenna of claim 4 wherein the first priming layer comprises a polymeric surfactant.

5 Claim 6 (Original): The patch antenna of claim 4 wherein the first adhesive layer comprises double sided tape.

Claim 7 (Original): The patch antenna of claim 4 wherein the first and second priming layers comprise a polymeric surfactant and the first and second adhesive layers comprise
10 double sided tape.

Claim 8 (Original): The patch antenna of claim 7 wherein the polymer plastic is a polyolefin.

15 Claim 9 (Currently Amended): A method of antenna assembly, the antenna comprising a radiating element, a dielectric layer, and a ground plate, the method comprising:

applying a first adhesive layer to radiating element;

applying a second adhesive layer to the ground plate;

respectively applying a priming layer to a top first surface and a bottom second

20 surface of the dielectric layer;

fixing the radiating element to the dielectric layer by compressing first adhesive layer between the radiating element and the priming layer applied to the top first surface of the dielectric layer; and

fixing the ground plate to the dielectric layer by compressing the second adhesive

25 layer between the ground plate and the priming layer applied to the bottom second surface of the dielectric layer.

Claim 10 (Original): The method of claim 9 further comprising integrating an amplifier

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into the antenna with a common ground plate or electrically connected ground plates and a conductor pin electrically connected from the radiating element to the amplifier,, the conductor pin passing through openings in the adhesive layers, the priming layers, the dielectric layer, and the ground plate.

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Claim 11 (Original): The method of claim 9 wherein the first adhesive layer is double sided tape.

10 Claim 12 (Original): The method of claim 9 wherein the priming layer comprises polymeric surfactants.

15 Claim 13 (Original): The method of claim 9 wherein the dielectric layer comprises a material selected from a group consisting of Polyethylene (PE), Polypropylene (PP), Polystyrene (PS), Polyisobutylene (PIB), Polybutylene (PB), Polybutadiene (BR), Teflon, Acrylonitrile / Butadiene / Styrene (ABS), Acrylonitrile / Ethylene-Propylenediene / Styrene (AES), Acrylonitrile / Styrene / Acrylate (ASA), Polyurethane (PU), and Polycarbonate (PC).

20 Claim 14 (Original): The method of claim 9 wherein the dielectric layer substantially is polymer plastic.

25 Claim 15 (Original): The method of claim 9 wherein the priming layer comprises a polymeric surfactant and the first and second adhesive layers comprise double sided tape.

Claim 16 (Original): The method of claim 15 wherein the dielectric layer substantially is a polyolefin.

Claim 17 (Currently Amended): An antenna comprising:

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- a polymer plastic dielectric layer having a top first surface and a bottom second surface;
- a first priming layer comprising a polymeric surfactant [[on]] contacting the top first surface;
- 5 a second priming layer comprising a polymeric surfactant [[on]] contacting the bottom second surface;
- a first adhesive layer comprising double sided tape fixed to the first priming layer;
- a second adhesive layer comprising double sided tape fixed to the second priming layer;
- 10 a radiating element fixed to the first adhesive layer; and
- a ground plate fixed to the second adhesive layer.

Claim 18 (Original): The antenna of claim 17 further comprising a low noise amplifier and a signal conductor pin electrically connecting the low noise amplifier to the radiating element.

Claim 19 (Original): The patch antenna of claim 17 wherein the dielectric layer comprises a material selected from a group consisting of Polyethylene (PE), Polypropylene (PP), Polystyrene (PS), Polyisobutylene (PIB), Polybutylene (PB), Polybutadiene (BR),
20 Teflon, Acrylonitrile / Butadiene / Styrene (ABS), Acrylonitrile / Ethylene-Propylenediene / Styrene (AES), Acrylonitrile / Styrene / Acrylate (ASA), Polyurethane (PU), and Polycarbonate (PC).

Claim 20 (Original): The patch antenna of claim 17 wherein the polymer plastic dielectric layer substantially comprises a polyolefin.